UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS

P O Box 1450 Alexandria, Virgima 22313-1450 www.usplo.gov

DATE MAILED: 06/22/2010

NOTICE OF ALLOWANCE AND FEE(S) DUE

85071 7590 06/22/2010 GRIFFITHS & SEATON PLLC (IBM2) 2108 N. Lemon Street

Mesa, AZ 85215

EXAMINER

BRADLEY, MATTHEW A

ART UNIT PAPER NUMBER

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------|--------------------|----------------------|---------------------|------------------|
| 10/808,561 | 03/24/2004 | Ofir Zohar | TUC920085005US1 | 4776 |
| TITLE OF INVENTION: SI | ELF HEALING MEMORY | | (0131.U01 | |

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | YES | \$755 | \$300 | \$0 | \$1055 | 09/22/2010 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 1SI. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above

B. If the status above is to be removed, check box 5b on Part B Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FIEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

or Fax (571)-273-2885

| INSTRUCTIONS: This appropriate. All further c indicated unless correcte | form should be used for correspondence includir d below or directed oth | or transm ig the Pat ierwise in | itting the ISSU ent, advance of Block 1, by (a | JE FEE and PUBLICA rders and notification of a) specifying a new con | TION FEE (if requirements of the control of the con | nired). 1 will be s; and/o | Blocks 1 through 5 s mailed to the current or (b) indicating a sepa | hould be completed when correspondence address a trate "FEE ADDRESS" for | |
|---|---|---|---|--|--|--|--|--|--|
| maintenance fee notifications. CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address) | | | | N Fe | Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying payers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission. | | | | |
| 85071 | 7590 06/22 | /2010 | | Ha | | | | | |
| GRIFFITHS & 2108 N. Lemon S Mesa, AZ 85215 | SEATON PLLC Street | (IBM2 |) | I Si ac tr | hereby certify that t tates Postal Service Idressed to the Ma ansmitted to the USI | his Fee(with suit il Stop PTO (57 | e of Mailing or Trans (s) Transmittal is being fficient postage for first ISSUE FEE address 71) 273-2885, on the d | ideposited with the Unite it class mail in an envelop above, or being facsimil ate indicated below. | |
| | | | | Г | | | | (Depositor's name | |
| | | | | | | | | (Signature | |
| | | | | | | | | (Date | |
| APPLICATION NO. | FILING DATE | | | FIRST NAMED INVENTO |)R | ATTC | RNEY DOCKET NO. | CONFIRMATION NO. | |
| 10/808,561 | 03/24/2004 | | | Ofir Zohar | | т | JC920085005US1 | 4776 | |
| TITLE OF INVENTION: | | 4ORY | | | | | (0131.U01 | | |
| | | | | | | | | | |
| | | | | | | | | | |
| APPLN, TYPE | SMALL ENTITY | ISSU | FEE DUE | PUBLICATION FEE DU | E PREV. PAID ISSU | TE FEE | TOTAL FEE(S) DUE | DATE DUE | |
| nonprovisional | YES | | \$755 | \$300 | \$0 | | \$1055 | 09/22/2010 | |
| EXAMI | NER | AF | T UNIT | CLASS-SUBCLASS | 7 | | | | |
| BRADLEY, M | ATTHEW A | | 2187 | 711-119000 | _ | | | | |
| 1. Change of corresponde | nce address or indicatio | n of "Fee . | Address" (37 | 2. For printing on the | patent front page, l | ist | | | |
| CFR 1.363). | undanca addraes (or Cha | non of Co | rraenondanca | (I) the names of up or agents OR, alterna | to 3 registered pate | nt attor | neys I | | |
| | ondence address (or Cha /122) attached. | | | | | | | | |
| "Fee Address" indi PTO/SB/47; Rev 03-03 Number is required. | cation (or "Fee Address 2 or more recent) attach | " Indication of Use of | n form a Customer | registered attorney of 2 registered patent at listed, no name will l | torneys or agents. It | nes of u no nan | ne is 3 | | |
| 3. ASSIGNEE NAME AN | | | | | | | | | |
| PLEASE NOTE: Unle recordation as set forth | ess an assignee is ident in 37 CFR 3.11. Com | ified below | w, no assignee his form is NO | data will appear on the T a substitute for filing a | patent. If an assig | nee is i | dentified below, the d | ocument has been filed for | |
| (A) NAME OF ASSIC | | | | (B) RESIDENCE: (CI | | | | | |
| | | | | | | | | | |
| 70 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | (III I | | D D. | | | υПα | |
| Please check the appropri | ate assignee category or | categorie | s (will not be pr | inted on the patent): | Individual UC | orporat | ion or other private gro | oup entity Governmen | |
| 4a. The following fee(s) a | re submitted: | | 41 | Payment of Fee(s): (P | | ny pre | viously paid issue fee | shown above) | |
| ☐ Issue Fee ☐ Publication Fee (No | o small entity discount r | nermitted) | | A check is enclosed | | 8 is att: | ached | | |
| Publication Fee (No small entity discount permitted) Advance Order - # of Copies | | | | ☐ Payment by credit card. Form PTO-2038 is attached. ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number (enclose an extra copy of this form). | | | | | |
| 5. Change in Entity Stat | no (form status indicato | d abarra) | | overpayment, to De | posit Account Numi | er | (enclose a | n extra copy of this form). | |
| | SMALL ENTITY state | | CFR I.27. | ☐ b. Applicant is no le | onger claiming SMA | LLEN | TITY status. See 37 Cl | R 1.27(g)(2). | |
| NOTE: The Issue Fee and interest as shown by the re | l Publication Fee (if req ecords of the United Sta | uired) will tes Patent | not be accepte and Trademark | d from anyone other that Office. | n the applicant; a reg | istered | attorney or agent; or th | e assignee or other party i | |
| Authorized Signature | | | | | Date | | | | |
| Typed or printed name | | | | | Registration | No | | | |
| This collection of informa an application. Confidenti submitting the completed this form and/or suggestic Box 1450, Alexandria, Vi Alexandria, Virginia 2231 | ation is required by 37 C iality is governed by 35 application form to the ons for reducing this bu- irginia 22313-1450. DC (3-1450. | FR 1.311. U.S.C. 12 USPTO, rden, shou ONOT SE | The information 22 and 37 CFR Time will vary ld be sent to the ND FEES OR | on is required to obtain of 1.14. This collection is depending upon the independing upon the independent of the COMPLETED FORMS | r retain a benefit by estimated to take 12 fividual case. Any c icer, U.S. Patent and TO THIS ADDRES | the pub minute ommen I Trader S. SEN | dic which is to file (and s to complete, including ts on the amount of the mark Office, U.S. Dep. D TO: Commissioner | by the USPTO to process g gathering, preparing, an ne you require to complet artment of Commerce, P.C for Patents, P.O. Box 1450 | |

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS

P O Box 1450 Alexandria, Virgima 22313-1450 www.uspto.gov

DATE MAILED: 06/22/2010

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. | | |
|-----------------------|-----------------|----------------------|---------------------|------------------|--|--|
| 10/808,561 03/24/2004 | | Ofir Zohar | TUC920085005US1 | 4776 | | |
| 85071 75 | 590 06/22/2010 | | EXAMINER | | | |
| GRIFFITHS & S | EATON PLLC (IBM | BRADLEY, MATTHEW A | | | | |
| 2108 N. Lemon St | reet | ART UNIT | PAPER NUMBER | | | |
| Mesa, AZ 85215 | | 2187 | | | | |

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 154 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 154 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Application No. Applicant(s) 10/808 561 ZOHAR ET AL. Notice of Allowability Examiner Art Unit MATTHEW BRADIEY 2187 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308. 1. This communication is responsive to amendment filed 26 April 2010. The allowed claim(s) is/are 41-65,67 and 69. 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) \square All b) ☐ Some* c) ☐ None of the: 1. T Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). * Certified copies not received: _____. Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. CORRECTED DRAWINGS (as "replacement sheets") must be submitted. (a) Including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached 1) hereto or 2) to Paper No./Mail Date (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d). 6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL. Attachment(s) 1. | Notice of References Cited (PTO-892) 5. Notice of Informal Patent Application 2. Notice of Draftperson's Patent Drawing Review (PTO-948) Interview Summary (PTO-413), Paper No./Mail Date Information Disclosure Statements (PTO/SB/08). 7. X Examiner's Amendment/Comment Paper No./Mail Date 4. T Examiner's Comment Regarding Requirement for Deposit 8. X Examiner's Statement of Reasons for Allowance of Biological Material 9. ☐ Other .

Application/Control Number: 10/808,561 Page 2

Art Unit: 2187

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 April 2010 has been entered.

Claim Status

Claims 41-65, 67, and 69 remain pending and are ready for examination.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

With respect to the specification dated 24 March 2004,

Amend page 1, line 6, as follows:

o Insert -- now U.S. Patent 7,293,156, -- after "10/620,249,"

Application/Control Number: 10/808,561

Art Unit: 2187

Allowable Subject Matter

Claims 41-65, 67, and 69 are allowed.

The following is an Examiner's statement of reasons for allowance: the prior art made of record teaches a redundant data storage system and retrieval of data therefrom, but fails to teach the combination including the limitation of:

(Claim 41) "...mapping the first range of LAs, the second range of LAs, and the remaining range of LAs in a first map ... mapping the second range of LAs and the redundantly stored data in the first range of LAs in a second map in response to the inoperability; utilizing the first map for requests that are directed to the first range of LAs and the remaining range of LAs in response to the inoperability; and utilizing the second map for future requests that are directed to the second range of LAs and to the redundantly stored data in the first range of LAs in response to the inoperability.";

(Claim 54) "...a first map for mapping the first range of LAs, the second range of LAs, the remaining range of LAs, and the redundancy data for the first range of LAs, the second range of LAs, the remaining range of LAs prior to detecting the inoperability of the second cache, and a second map for mapping the second range of LAs and the redundancy data for the first range of LAs in response to the inoperability of the second cache, wherein: the system manager is further configured to utilize the first map for requests that are directed to the first range of LAs and the remaining range of LAs in response to the inoperability, and utilize the second map for future requests that are directed to the second range of LAs and to the redundantly stored data in the first range of LAs in response to the inoperability.";

Application/Control Number: 10/808,561

Art Unit: 2187

As dependent claims **42-53**, **55-65**, **67**, and **69** depend from an allowable base claim; they are at least allowable for the same reasons as noted *supra*.

The prior art made of record, Hicken et al (U.S. 2004/0153727) and Nakamura et al (U.S. 2005/0021906), neither anticipates nor renders obvious the above-recited combinations for at least the reasons specified and as shown in Applicant's Arguments filed 26 April 2010 as well as 6 November 2009.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew Bradley whose telephone number is (571) 272-8575. The examiner can normally be reached on 6:30-3:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chace can be reached on (571) 272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2187

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CPC/mb /Christian P. Chace/ Supervisory Patent Examiner, Art Unit 2187